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REMARKS

This amendment is responsive to the office action dated September 8, 2004.

Claims 9 and 10 were pending in the application. Claims 9 and 10 were rejected. No claims were allowed by the Examiner.

By way of this amendment, Claim 9 has been amended. Claim 10 remains unchanged.

Accordingly, Claims 9 and 10 are currently pending.

I. REJECTION OF CLAIMS UNDER 35 USC 112

The Examiner rejected Claims 9 and 10 under 35 USC §112, first paragraph as not complying with the written description requirement. Specifically, the Examiner stated that the inclusion of the phrase "electrically insulative PITCH based carbon fiber" lacked support. The Applicant has amended Claim 9 to remove the words "electrically insulative". The Applicant asserts that this limitation is an inherent material property of the PITCH based carbon fiber and accordingly is redundant anyway. Accordingly, the Applicant believes that the removal of this term is simply to comply with the requirements set forth by the Examiner and has no impact on the scope of the claim itself. Withdrawal of this ground for rejection is respectfully requested.

II. REJECTION OF CLAIMS UNDER 35 USC 103

The Examiner rejected Claims 9 and 10 under 35 USC §103 (a) as being obvious and unpatentable over the combination of US Patent No. H1332 (Deakyne et al) in view of US Patent No. 5,100,726 (Nakagawa) and US Patent No. 6,049,469 (Hood, III). The Examiner stated that Deakyne teaches a process including the steps of providing a base thermoplastic polymer matrix, mixing a thermally conductive filler into said base matrix, injection molding the mixture into a net-shape molded configuration having a contact surface for flush thermal communication with a heat generating object. The Examiner further states that while Deakyne does not disclose the inclusion of an outer surface and a contact interface for flush thermal communication with a heat generating object and plating a metallic coating over the outer surface of the part, Hood discloses a well known

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shield for dissipating heat and providing protection from electromagnetic interference and Nakagawa discloses forming a thermally conductive part from a composite material and plating a metallic coating thereon and that it would have been obvious to one skilled in the art to combine the references to arrive at the present invention.

The Applicant again must respectfully assert however that the device disclosed in Nakagawa specifically teaches away from combination with Deakyne to arrive at the method and composition disclosed under the present invention. The Nakagawa reference specifically discloses that the carbon fiber reinforcing used in the polymer matrix is not pitch based. Specifically, the disclosure requires that the carbon fiber cannot evaporate at temperatures of between 950°C and 1300°C where per the disclosure the specialized carbon fiber is pyrolyzed. The invention is directed at forming an electrically conductive housing that by its very nature is not thermally conductive. If one skilled in the art simply substituted the PITCH based carbon fiber disclosed in Deakyne into the Nakagawa disclosure, the PITCH based carbon filler would vaporize at the anticipated operating temperature range of the device.

Accordingly, it is only by engaging in hindsight reconstruction as a substitute in place of motivation for one skilled in the art that the Examiner is able to combine these references at all. Accordingly, the Applicant submits that because the motivation to combine these references is lacking absent an exercise in impermissible hindsight reconstruction, this combination cannot be maintained.

With respect to the Hood disclosure, the shield device is exactly the type of device that the present invention is created to overcome. The shield cannot be net shape molded. It must be stamped and machined. The Hood reference discloses that the materials suitable for use in fashioning the shield device are all electrically conductive and include beryllium copper that has been heat treated or age hardened for 3 hours at 900°F (Cols. 5-6, lines 59-14). There is no way that this material could possibly be net shape injection molded because the temperatures at which this material would be molded would simply destroy any injection molding equipment which it came into contact with. Additionally, simply throwing the PITCH based carbon fiber filler into the composition would as stated above result in evaporation of the filler during the molding process.

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Similarly, the composition of the present invention could not possibly meet the stated strength requirements wherein minimum yield strength of 80,000 pounds per square inch is required. Should the polymer composition of the present invention be heat treated in the same manner as the beryllium copper alloy of the Hood disclosure, the material would simply evaporate during the heat treatment process.

There is no teaching within Hood that the device could be formed using any other process other than a process that involves the stamping of metal. Since neither of the cited references include any teachings that suggest that they could be combined to form an integrated structure and since even the integrated structure would be lacking in the critical thermally conductive polymer composition that is central to the present invention, it is believed that the cited references could not be combined to arrive at the present invention. In other words, since Hood teaches a specific formation process and a highly restrictive heat strengthened hardness, the Hood and Deakayne references specifically teaches away from using a thermally conductive PITCH based carbon filler in the polymer composition. One skilled in the art would lack any motivation to combine the references as suggested by the Examiner, specifically because in combination the device would fall as lacking any remnants of PITCH based filler within the composition because it would have evaporated. Accordingly, the two cited references cannot be combined to render the present invention obvious nor would one having skill in the relevant art have motivation to combine these two divergent references.

Since there is no teaching in any of the cited references that the references may be combined and since there is showing that the references alone or in combination render the present invention obvious upon combination, the Applicant asserts that this rejection is inapplicable and respectfully requests withdrawal of these grounds for rejection.

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III. CONCLUSION

Accordingly, claims 9 and 10 are believed to be in condition for allowance and the application ready for issue.

Corresponding action is respectfully solicited.

PTO is authorized to charge any additional fees incurred as a result of the filing hereof or credit any overpayment to our account #02-0900.

Respectfully submitted,



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